

AMENDMENTS TO THE DRAWINGS:

The attached sheet of drawings includes changes to FIG. 1. This sheet replaces the original sheet including FIG. 1. In FIG. 1, previously omitted elements 3 and 15 have been added. Further, the direction of the arrow indicating the flow of working medium has been changed.

REMARKS

Claims 1 through 21 were presented for examination in the present application and remain pending for consideration upon entry of this Amendment.

Claims 17 through 19 have been indicated as being allowable if rewritten to overcome the 35 U.S.C. 112, 2nd paragraph rejections and to include all the limitations of the base claim and any intervening claims. Claims 17 and 18 have been rewritten accordingly and are in condition for allowance. Claim 19 depends from claim 18 and is also in condition for allowance.

The Office Action asserts that the Oath/Declaration is defective. Applicant is in the process of attempting to obtain an Oath/Declaration which is in compliance with 37 C.F.R. 1.67(a) and will submit it in due course.

The drawings were objected to. FIG. 1 was amended to add elements 15 and 3. In addition, the arrow representing the flow of working medium within the evacuation chamber has been changed as asserted in the Office Action. The specification was amended to correct obvious translation errors. As such, the amendments overcome the objections to the drawings. Reconsideration and withdrawal of the objections to the drawings are respectfully requested.

The specification was objected to. The specification has been amended accordingly. In addition, the Abstract has been replaced and is attached hereto. Reconsideration and withdrawal

of the objections to the specification are respectfully requested.

Claim 18 was objected to. Claim 18 has been amended accordingly. Reconsideration and withdrawal of the objection to claim 18 are respectfully requested.

Claims 11 through 21 were rejected under 35 U.S.C. 112, second paragraph. Claims 11 through 21 have been amended accordingly. Reconsideration and withdrawal of the rejections to claims 11 through 21 are respectfully requested.

Claims 11, 12, 15, and 16 were rejected under 35 U.S.C. 103(a) as being unpatentable over Patent Number FR 860,103 ("the '103 patent"). Claims 11, 12, 15, and 16 were rejected under 35 U.S.C. 103(a) as being unpatentable over the '103 patent, in view of DE 961,058 ("the '058 patent"). Claims 13 and 14 were rejected under 35 U.S.C. 103(a) as being unpatentable over the '103 patent, in view of the '058 patent, and further in view of Design choice. Claims 20 and 21 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,138,840 ("the '840 patent"), in view of the '103 patent, and further in view of the '058 patent.

Independent claim 11 recites "A hydrodynamic coupling comprising: a primary impeller; a secondary impeller... a drive shaft driving said primary impeller, said drive shaft having a first end, a second end, a central axis, and... at least one supply channel for introducing a working medium to said toroidal working chamber, said at least one supply channel being formed in said drive shaft at said central axis along said segment; and

a plurality of evacuation channels for evacuating said working medium from said toroidal working chamber, said plurality of evacuation channels being formed in said drive shaft radially about said at least one supply channel...(emphasis added)".

The Office Action asserts that the '103 patent discloses "a hydrodynamic coupling comprising:..... a drive shaft (7) driving said primary impeller (Not Numbered)...said at least one supply channel (via 31 and 8) being formed in said drive shaft (7)...said evacuation channel being formed in said drive shaft (7)". See, pages 9 - 10.

Applicant respectfully disagrees.

The '103 patent discloses a device applicable to hydraulic circuits connected to hydraulically activated friction clutches including a rotary element that bears the pressure chambers needed to activate the friction clutch, and the liquid under pressure is supplied to the friction clutch through a hydraulic circuit shaft. The liquid under pressure is supplied to the friction clutch through a fixed shaft inserted inside the hydraulic circuit shaft. The hydraulic circuit is made in the form of a torque transformer and the liquid is supplied to the friction clutch and hydraulic circuit through the shaft of a guide blade ring.

First, it is clear that the device of the '103 patent does not disclose a hydrodynamic coupling but rather a hydrodynamic torque converter. A hollow shaft comprising gear wheel 3 drives the primary impeller. To activate the friction clutch as well as the hydrodynamic torque converter, hydrodynamic fluid is

passed through conduit 30 into bores 8 and 9 of a fixed (motionless) shaft 7. Thus, the '103 patent clearly fails to disclose or suggest a drive shaft that drives the primary impeller as required by claim 11. In fact, the '103 patent fails to disclose or suggest a drive shaft at all.

Moreover, the '058 patent also fails to disclose or suggest the drive shaft recited by claim 11.

The '058 patent discloses a fluid transmission for motor vehicles. The fluid transmission includes a pump wheel and a turbine wheel which can be engaged together by a friction clutch. The friction clutch is actuated by a hydraulic fluid conveyed by a pump driven by the engine. The conveyance of the hydraulic fluid between the friction clutch and the pump is controlled by a thermostat installed in a known manner.

In the '058 patent, drive shaft 3 does not comprise channels for introducing and evacuating working medium from the working chamber. On the contrary, the medium is introduced into the working chamber by a channel formed in stationary housing 15, between turbine shaft 5 and pump wheel 1. The outlet channel is formed in turbine shaft 5.

As noted previously, claim 11 requires "said at least one supply channel being formed in said drive shaft at said central axis along said segment... said plurality of evacuation channels being formed in said drive shaft radially about said at least one supply channel". Thus, the arrangement of channels in the '058 patent is clearly different from those of the drive shaft recited in claim 11.

Consequently, neither the '103 or the '058 patents, either alone or in combination, discloses or suggests the drive shaft recited by claim 11. Claim 11 is in condition for allowance. Claims 12 through 16 depend from independent claim 11 and are in condition for allowance for at least the reasons set forth above with regard to claim 11. Reconsideration and withdrawal of the rejections to claim 12 through 16 are respectfully requested.

Independent claim 20 recites "A drive train comprising... a hydrodynamic coupling...comprising: a primary impeller and a secondary impeller... a drive shaft driving said primary impeller, ... at least one supply channel for introducing a working medium to said toroidal working chamber, said at least one supply channel being formed in said drive shaft at said central axis along said segment; and a plurality of evacuation channels for evacuating said working medium from said toroidal working chamber, said plurality of evacuation channels being formed in said drive shaft radially about said at least one supply channel (emphasis added)".

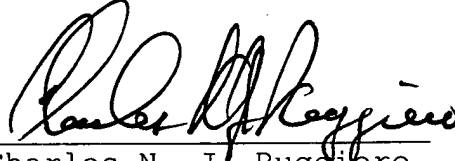
As noted above, the cited art fails to disclose or suggest the drive shaft recited by claim 20. Claim 20 is in condition for allowance. Claim 21 depends from independent claim 20. Reconsideration and withdrawal of the rejections to claims 20 and 21 are respectfully requested.

In view of the above, it is respectfully submitted that the present application is in condition for allowance. Such action is solicited.

If for any reason the Examiner feels that consultation with Applicant's attorney would be helpful in the advancement of the prosecution, the Examiner is invited to call the telephone number below.

Respectfully submitted,

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